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### **MONITORING MUSICAL DEVELOPMENT OF CHILDREN OF THE THIRD YEAR OF LIFE, TAKING INTO ACCOUNT HOLISTIC THINKING**

**Abstract.** The article discusses the concept of functional asymmetry of the child's cerebral hemispheres and the universal developmental paradigm. The universal developmental paradigm means that the characteristic of the world in which we exist is its duality, its division into right and left, light and dark, good and evil... It is thinking, as a function of the human mind, that can be considered the essence of man - a fundamentally intelligent being, and therefore thinking, since thinking is a system-forming factor of man as a living system, and at the same time a necessary and sufficient factor of his being as a rational being, as a species of Homo sapiens. Therefore, the main developmental goal of education should be considered the development of thinking in pupils.

Preschool children's brains are used to remembering everything as it is - in a variety of colors, smells, sounds, and other factors. During reproduction, an image-model is created in the right hemisphere, and a verbal definition corresponding to the image is created in the left hemisphere. As a result, perception is not erased, it gives rise to brilliant poems, books, paintings, discoveries. This is unlimited and natural for him.

During learning, in most cases, either the left or the right hemisphere of the brain is loaded, while the opposite remains unused. Experimentally, using K. Pearson's criterion, it was confirmed that the musical development of a child of the third year

of life will be more effective and qualitative if the holistic thinking of the two hemispheres of the child's brain is involved.

Holistic thinking is the combined work of the two cerebral hemispheres, relying on all channels of information perception. Of course, the tasks of developing preschool children's personality will be successfully solved if music lessons include consideration of the main issues of factual material. In this case, the music teacher varies the methods of study and forms of work. We propose conditions for individual and personal development of the child, namely, within the framework of the program, thematic planning, conducting classes, games, matinees, etc. the music teacher should have didactic material that changes the type and form of presentation of educational material, and the child has the freedom to choose the task (the same task should provide the possibility of its implementation through an image, word, scheme, modelling, musical accompaniment, movement, etc.), that is, to promote the integration of the right and left types of being in learning and development. Activities that involve two hemispheres of the preschoolers' brain simultaneously will be more effective.

**Keywords:** musical development, children of the third year of life, holistic thinking, pedagogical experiment, K. Pearson's criterion.

**Problem formulation.** The analysis of scientific literature on the problem of research allows us to conclude that one of the most adequate theoretical tools for the study of thinking is the concept of functional asymmetry of the hemispheres of the human brain, as well as the universal development paradigm. The universal development paradigm means that the characteristic of the world in which we exist is dual. It's divided into right and left, light and dark, good and evil... It is thinking, as a function of the human mind. It can be considered the essence of human – a fundamentally intelligent being, and therefore thinking. Because thinking is a system-forming factor of human as a living system, and at the same time a necessary and sufficient factor of his existence as a rational being, as a species of *Homo sapiens*. Therefore, the development of children' thinking can be considered the main developmental goal of education (Дубасенюк та Вознюк, 2010).

The brain of preschoolers is used to remember everything as it is – In a variety of colors, smells, sounds, and other factors. During reproduction, an image-model is created in the right hemisphere, and corresponding verbal meaning of the image – in the left one. As a result, perception is not erased; it generates brilliant poems, books, paintings, discoveries. It is unlimited and natural. In most cases, during study, the load is either on the left hemisphere of the brain or on the right one, while the opposite remains unused (Остапчук, 2020).

The child's brain, which loses to the computer in the speed of operations, works much better than it. The reason is that the brain breaks the task into small parts and at the same time several different areas are simultaneously involved in the work. Then the processing results are added. Obviously, the efficiency of work is better when more such areas are involved, working synchronously, in parallel.

**Research Methodology.** To solve this problem, we conducted experimental training. The essence of the hypothesis is, if the following pedagogical conditions:

motivation for cognitive activity;

the use of two hemispheres of the child's brain in holistic thinking;

educational content is presented in different forms;

observance of subject-subjective relations between the music educator and preschoolers are applied in the process of conducting music classes with preschoolers of the third year of life, the child's musical development will be increased. The experimental training was conducted from October 2019 to November 2020 in the preschool education institution No 52 nursery-kindergarten of the physical culture and health direction in the city of Rivne.

The methodology of conducting music classes using holistic thinking of the child acted as an experimental factor, or independent variable. The musical development of children acted as a factor that being changed under the influence of the independent variable. The method of experimental and control groups was the form of organization of the pedagogical experiment, while the experimental factor was introduced in the experimental group, and not in the control group. Other conditions that influenced the musical development of preschoolers were the same in the experimental and control groups.

To make sure that preschoolers in the experimental and control groups were sufficiently similar at the beginning of the experiment, we used the Pearson's  $\chi^2$  test. The advantage of this method is that it allows comparing feature distributions on any scale. The  $\chi^2$  criterion answers the question of whether different values of a characteristic occur with equal frequency in both distributions. The greater the discrepancy between the two distributions being compared, the greater the empirical value of  $\chi^2$  (Руденко та Руденко, 2009).

To increase the accuracy of statistical evaluation, the number of sample items  $n \geq 50$  and the number of degrees of freedom  $k \leq 6$  are recommended.

The pedagogical experiment was conducted in two groups: control (23+28=51 children) and experimental (22+27=49 children).

To obtain quantitative data, at the beginning of the experiment in October 2019 and at the end of the experiment in November 2020, the musical development of children of the third year of life was monitored according to the Program for the Development of Preschool Children «Ukrainian Preschool» (Аксьонова, Анішук та Артемова, 2014).

The distribution of scores obtained in the experimental (e) and control groups (c) is presented in Tables 1 and 2.

The average score was calculated by the  $\bar{X} = \frac{\sum f_i \cdot x_i}{\sum f_i}$ , where  $f_i$  is the frequency of the score occurrence.

The obtained values of average scores are presented in Tables 1 and 2.

**Table 1**

**Distribution of scores for monitoring children's musical development at the beginning of the pedagogical experiment**

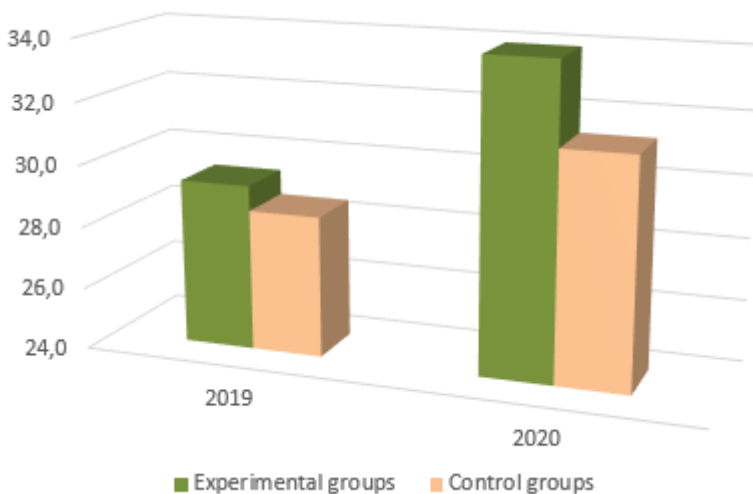
|               | Experimental groups |                 |                      | Control groups |                 |                     |
|---------------|---------------------|-----------------|----------------------|----------------|-----------------|---------------------|
| Score $x_i$   | $f_i$               | $f_i \cdot x_i$ |                      | $f_i$          | $f_i \cdot x_i$ |                     |
| 18            | 1                   | 18              |                      | 1              | 18              |                     |
| 19            | 1                   | 19              |                      | 2              | 38              |                     |
| 20            | 1                   | 20              |                      | 4              | 80              |                     |
| 1) low        | 3                   |                 |                      | 7              |                 |                     |
| 21            | 2                   | 42              |                      | 2              | 42              |                     |
| 22            | 1                   | 22              |                      | 2              | 44              |                     |
| 23            | 4                   | 92              |                      | 3              | 69              |                     |
| 25            | 5                   | 125             |                      | 5              | 125             |                     |
| 27            | 6                   | 162             |                      | 4              | 108             |                     |
| 28            | 5                   | 140             |                      | 4              | 112             |                     |
| 29            | 4                   | 116             |                      | 3              | 87              |                     |
| 2) average    | 27                  |                 |                      | 23             |                 |                     |
| 31            | 2                   | 62              |                      | 3              | 93,0            |                     |
| 32            | 3                   | 96              |                      | 3              | 96,0            |                     |
| 33            | 1                   | 33              |                      | 3              | 99,0            |                     |
| 34            | 0                   | 0               |                      | 3              | 102,0           |                     |
| 35            | 4                   | 140             |                      | 1              | 35,0            |                     |
| 37            | 2                   | 74              |                      | 3              | 111,0           |                     |
| 38            | 2                   | 76              |                      | 2              | 76,0            |                     |
| 39            | 1                   | 39              |                      | 1              | 39,0            |                     |
| 40            | 2                   | 80              |                      | 1              | 40,0            |                     |
| 3) sufficient | 17                  |                 |                      | 20             |                 |                     |
| 41            | 2                   | 82              |                      | 0              | 0               |                     |
| 42            |                     | 0               |                      | 1              | 42              |                     |
| 43            | 0                   | 0               |                      | 0              | 0               |                     |
| 44            |                     |                 |                      |                |                 |                     |
| 45            |                     |                 |                      |                |                 |                     |
| 4) high       | 2                   |                 | average score        | 1              |                 | average score       |
| Total         | 49                  | 1438            | $\bar{X} = 29,34694$ | 51             | 1456            | $\bar{X} = 28,5490$ |

Table 2

**Distribution of scores for monitoring children's musical development at the end of the pedagogical experiment**

|               | Experimental groups |                 |               | Control groups |                 |               |
|---------------|---------------------|-----------------|---------------|----------------|-----------------|---------------|
| Score $x_i$   | $f_i$               | $f_i \cdot x_i$ |               | $f_i$          | $f_i \cdot x_i$ |               |
| 18            | 0                   | 0               |               | 0              | 0               |               |
| 19            | 0                   | 0               |               | 1              | 19              |               |
| 20            | 0                   | 0               |               | 2              | 40              |               |
| 1) low        | 0                   |                 |               | 3              |                 |               |
| 21            | 1                   | 21              |               | 1              | 21              |               |
| 22            | 0                   | 0               |               | 1              | 22              |               |
| 23            | 2                   | 46              |               | 2              | 46              |               |
| 25            | 4                   | 100             |               | 4              | 100             |               |
| 27            | 2                   | 54              |               | 1              | 27              |               |
| 28            | 2                   | 56              |               | 5              | 140             |               |
| 29            | 2                   | 58              |               | 4              | 116             |               |
| 2) average    | 13                  |                 |               | 18             |                 |               |
| 31            | 2                   | 62              |               | 3              | 93              |               |
| 32            | 3                   | 96              |               | 3              | 96              |               |
| 33            | 4                   | 132             |               | 5              | 165             |               |
| 34            | 3                   | 102             |               | 3              | 102             |               |
| 35            | 5                   | 175             |               | 4              | 140             |               |
| 37            | 3                   | 111             |               | 2              | 74              |               |
| 38            | 3                   | 114             |               | 3              | 114             |               |
| 39            | 2                   | 78              |               | 3              | 117             |               |
| 40            | 2                   | 80              |               | 2              | 80              |               |
| 3) sufficient | 27                  |                 |               | 28             |                 |               |
| 41            | 4                   | 164             |               | 0              | 0               |               |
| 42            | 2                   | 84              |               | 1              | 42              |               |
| 43            | 2                   | 86              |               | 1              | 43              |               |
| 44            | 1                   | 44              |               |                |                 |               |
| 45            |                     |                 |               |                |                 |               |
| 4) high       | 9                   |                 | Average score | 2              |                 | Average score |

|       |  |      |                          |  |      |                      |
|-------|--|------|--------------------------|--|------|----------------------|
| Total |  | 1663 | $\bar{x} = 33,9387$<br>8 |  | 1597 | $\bar{x} = 31,31373$ |
|-------|--|------|--------------------------|--|------|----------------------|



**Fig. 1**

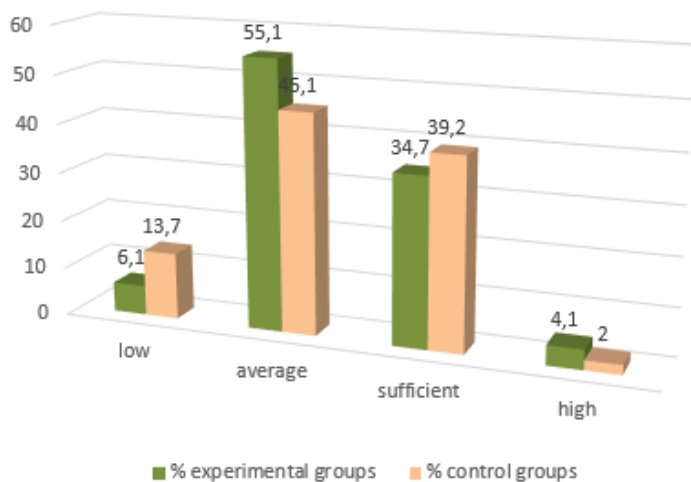
*Diagram of changes in average scores in the experimental and control groups*

To apply the  $\chi^2$  criterion, we will divide the number of obtained scores in the monitoring of preschoolers into four intervals:

- 1) 16-20 - corresponds to a low level of children's musical development;
- 2) 21-30 - corresponds to the average level of children's musical development;
- 3) 31-40 - corresponds to a sufficient level of children's musical development;
- 4) 41-48 - corresponds to a high level of children's musical development.

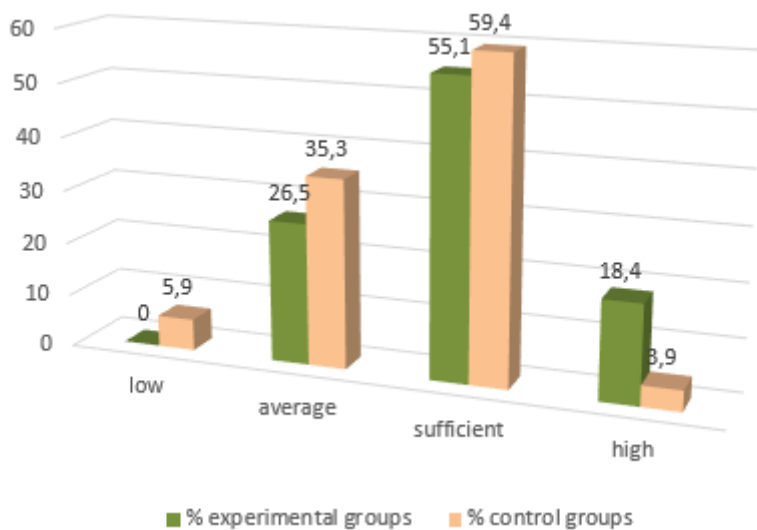
The frequencies of intervals in the experimental  $f_e$  and control  $f_c$  groups at the beginning and at the end of the pedagogical experiment are shown in Tables 3 and 4. Taking into account the obtained data, we calculated the percentages of  $p_e$  and  $p_c$  of children by levels of musical development at the beginning and at the end of the experiment, using the following  $p_e = \frac{f_e \cdot 100}{49}$ ,  $p_c = \frac{f_c \cdot 100}{49}$ .

The results of the calculations are illustrated in the diagrams of Fig. 2 and Fig. 3.



**Fig. 2**

*Diagram of the percentage distribution of children by level at the beginning of the experiment*



**Fig. 3**

*Diagram of the percentage distribution of children by level at the end of the experiment*

At the beginning of the experiment, both groups were at average level, and low level. This is mainly due to the fact that systematic music classes began with preschoolers of the third year of life. After a year of classes, the overall level of musical development of both groups increased, but in the experimental group there were no children who were engaged in low level and the percentage distribution shifted more to sufficient and high level. In our opinion, this is due to the development of holistic thinking when conducting music classes.

**Research Results.** The scientific reliability of the research results will be proved with statistical methods. Let's test the statistical hypothesis, which will be called the null hypothesis (Воловик, 1989; Кыверялг, 1980; Руденко та Руденко, 2009)  $H_0$ : the studied samples have the same distribution law, and the differences in the results of the samples are explained only by random causes. In fact, the level of musical development of preschoolers is the same. The validity of  $H_0$  can be tested by comparing it with the alternative hypothesis  $H_1$ : the levels of musical development in the control and experimental groups are different due to non-random factors. They are the result of the use of exercises, tasks, and actions in music classes that involve thinking of both hemispheres of the child's brain.

We use the  $\chi^2$  criterion to determine whether to reject the  $H_0$  and thereby accept the  $H_1$ , or to accept the  $H_0$  and thereby reject the  $H_1$  (Kyverialg, 1980, p. 286; Rudenko et al., 2009). The  $\chi^2$  criterion is used for grouped data with unequal intervals. For the convenience of calculations, we will enter the intermediate results in Table 3 and Table 4. The number of degrees of freedom is calculated by the formula  $k - 1$ , where  $k = 4$  is the number of intervals. Then the number of degrees of freedom is equal to 3. From the table (Kyverialg, 1980, p. 288; Rudenko et al., 2009)

we find out that the value corresponding to three degrees of freedom  $\chi^2_{0,05} = 7,81$  is at the significance level  $\alpha = 0.05$ . The calculations of the empirical  $\chi^2$  criterion are entered in Tables 3 and 4. Since the number of children in the groups is not the same, we calculated the theoretical frequencies  $fe.m$  and  $fk.m$  using the  $fe.m = \frac{n_1}{n} \sum f$ ,  $fk.m = \frac{n_2}{n} \sum f$ , where  $n_1 = 49$ ,  $n_2 = 51$ ,  $n = n_1 + n_2 = 49 + 51 = 100$  - the number of children in the experimental and control groups,  $\sum f = fe + fk$ .

The value of the Pearson's  $\chi^2$  test was calculated using the  $\chi^2 = \sum_{i=1}^{2k} \frac{\Delta f^2}{f_m}$ ,  $\Delta f = f_{\text{empirical}} - f_m$ .

Table 3

Worksheet for the  $\chi^2$  criterion at the beginning of the pedagogical experiment

| The level of musical development | Empirical frequencies |              |                        | Theoretical frequencies |        |
|----------------------------------|-----------------------|--------------|------------------------|-------------------------|--------|
| $i$                              | $fe$                  | $fk$         | $\Sigma f$             | $fe.m$                  | $fk.m$ |
| 1) low                           | 3                     | 7            | 10                     | 4,9                     | 5,1    |
| 2) average                       | 27                    | 23           | 50                     | 24,5                    | 25,5   |
| 3) sufficient                    | 17                    | 20           | 37                     | 18,13                   | 18,87  |
| 4)high                           | 2                     | 1            | 3                      | 1,47                    | 1,53   |
| Sums of levels                   | 49                    | 51           | 100                    | 49                      | 51     |
| Calculations                     |                       |              |                        |                         |        |
| $i$                              | $fe, fk$              | $fe.m, fk.m$ | $\Delta f^2/fm$        |                         |        |
| 1) low                           | 3                     | 4,9          | 0,736734694            |                         |        |
| 2) average                       | 27                    | 24,5         | 0,255102041            |                         |        |
| 3) sufficient                    | 17                    | 18,13        | 0,070430226            |                         |        |
| 4)high                           | 2                     | 1,47         | 0,191088435            |                         |        |
| 1) low                           | 7                     | 5,1          | 0,707843137            |                         |        |
| 2) average                       | 23                    | 25,5         | 0,245098039            |                         |        |
| 3) sufficient                    | 20                    | 18,87        | 0,067668256            |                         |        |
| 4)high                           | 1                     | 1,53         | 0,183594771            |                         |        |
| Sums of levels                   | 100                   | 100          | $\chi^2 = 2,4575596$   |                         |        |
| Critical values of the criterion |                       |              | $\chi^2_{0,05} = 7,81$ |                         |        |

At the beginning of the pedagogical experiment, the calculated value of  $\chi^2 = 2,4575596$  is much less than the critical value  $\chi^2_{0,05} = 7,81$ , so the experimental and control groups are quite similar in the levels of musical development.

Table 4

Worksheet for the  $\chi^2$  criterion at the end of the pedagogical experiment

| The level of musical development | Empirical frequencies |                    | $\Sigma f$             | Theoretical frequencies |           |
|----------------------------------|-----------------------|--------------------|------------------------|-------------------------|-----------|
| $i$                              | $f_e$                 | $f_k$              |                        | $f_{e.m}$               | $f_{k.m}$ |
| 1) low                           | 0                     | 3                  | 3                      | 1,47                    | 1,53      |
| 2) average                       | 13                    | 18                 | 31                     | 15,19                   | 15,81     |
| 3) sufficient                    | 27                    | 28                 | 55                     | 26,95                   | 28,05     |
| 4) high                          | 9                     | 2                  | 11                     | 5,39                    | 5,61      |
| Sums of levels                   | 49                    | 51                 | 100                    | 49                      | 51        |
| Calculations                     |                       |                    |                        |                         |           |
| $i$                              | $f_e, f_k$            | $f_{e.m}, f_{k.m}$ | $\Delta f^2/fm$        |                         |           |
| 1) low                           | 0                     | 1,47               | 1,47                   |                         |           |
| 2) average                       | 13                    | 15,19              | 0,315740619            |                         |           |
| 3) sufficient                    | 27                    | 26,95              | 9,27644E-05            |                         |           |
| 5) high                          | 9                     | 5,39               | 2,417829314            |                         |           |
| 1) low                           | 3                     | 1,53               | 1,412352941            |                         |           |
| 2) average                       | 18                    | 15,81              | 0,303358634            |                         |           |
| 3) sufficient                    | 28                    | 28,05              | 8,91266E-05            |                         |           |
| 4)high                           | 2                     | 5,61               | 2,323012478            |                         |           |
| Sums of levels                   | 100                   | 100                | $\chi^2 = 8,242475876$ |                         |           |
| Critical values of the criterion |                       |                    | $\chi^2_{0,05} = 7,81$ |                         |           |

At the end of the pedagogical experiment, the calculated value of  $\chi^2 = 8,242475876$  is greater than the critical value  $\chi^2_{0,05} = 7,81$ , so  $H_0$  is rejected and  $H_1$  is accepted.

**Discussion.** The personal development of preschoolers is uneven according to the stages by J. Piaget and G. Epstein. In addition, there are temporary delays and deviations from the age norm. The children of the third year of life with whom we worked have different levels of cognitive activity: high, average and low.

Preschoolers with a high level of cognitive activity almost do not need the help of a music educator. On the contrary, the music educator should pay attention to preschoolers with average and low levels of curiosity. The methods of emotional activity include:

- a musical or poetic passage as a greeting (children enter music class to musical accompaniment), a game technique, etc;
- an unusual beginning of music class - for example, a fairy-tale character visiting the children;
- individual encouragement, praise, positive evaluation.

Children of the third year of life like games with musical accompaniment. Among which the most common are story games and game exercises. The child's life experience and imagination about the world around them form the basis of story-based moving games. Preschoolers learn about the behavior of animals and birds from adult stories, television programs, and observations of their surroundings. Then, during the game, they reproduce movements of a particular character. The rules of these games are closely related to their plot. For example, the hares run away and the wolf chases, etc.

The vast majority of outdoor games are accessible and useful for children of the third year of life. To choose a game, first of all, a specific pedagogical task is set, taking into account the age characteristics of preschoolers, physical fitness, place and time of the game. For example, if the task is to improve the skill of rhythmic running, games are selected where this movement is the main one («Run to me»), involving only the left hemisphere of the child's brain.

To engage the two hemispheres of the child's brain, the game should be complicated. For example, in the game «In the Bear's Forest» instead of one «bear», appoint two, which will complicate the actions of the players and require more attention.

An important aspect of the game is the choice of one or more leaders. Their roles can be different: to catch up with someone who is running away, to recognize the voice of someone who is approaching, etc. Acting as a leader has an educational value and promotes activity and organizational skills in preschoolers. It is desirable that all children in the group take on the role of leader throughout the year.

Music increases the motor activity of preschoolers in kindergarten. Moving games with musical accompaniment help to form posture, coordination and coherence of movements. Music gives movement's special expressiveness, clarity, and rhythmicity. Rejoicing in music, feeling the beauty of their movements, the child is emotionally enriched, experiences a special elation and becomes cheerful.

**Conclusions and prospects for further research.** The methods of mathematical statistics and K. Pearson's test confirmed the hypothesis of the pedagogical research with a probability of 95%. If the following pedagogical conditions:

- motivation for cognitive activity;
- the use of two hemispheres of the child's brain in holistic thinking;
- educational content is presented in different forms;
- observance of subject-subjective relations between the music educator and preschoolers

are applied in the process of conducting music classes with preschoolers of the third year of life, the child's musical development will be increased.

At the beginning of the experiment, both groups were at average level, and low level. This is due to the fact that preschoolers of the third year of life have just started systematic music classes. A year later, the overall level of musical development increased in both groups, which was confirmed by the experiment, which is natural. However, there was a slight difference in the indicators of competence of preschoolers' musical activity at low and high levels in the direction of improving the results in the experimental group. We believe, this is due, to the consideration of holistic thinking in conducting music lessons.

Thus, it can be argued that holistic thinking is the combined work of the two brain hemispheres, relying on all channels of information perception. The child's holistic thinking should be economical, natural, healthy, harmonious, and consistent with the general laws of the universe. Of course, the tasks of preschoolers' personality development will be successfully solved if the music lessons include consideration of the main issues of factual material. In this case, the music educator varies the methods of study and forms of work. We propose conditions for individual and personal development of the child, namely, within the framework of the **program**, thematic planning, conducting classes, games, matinees, etc. The music educator should have didactic material that changes the type and form of presentation of educational material. And the child has the freedom to choose the task (the same task should provide the possibility of its implementation through an image, word, scheme, modeling, musical accompaniment, movement, etc.). That is, to promote the integration of the right and left types of existence in learning and development. Activities that involve two hemispheres of the preschoolers' brain simultaneously will be more effective.

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## МОНІТОРИНГ МУЗИЧНОГО РОЗВИТКУ ДІТЕЙ З УРАХУВАННЯМ ЦІЛІСНОГО МИСЛЕННЯ

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**Анотація.** У статті розглядається поняття функціональної асиметрії півкуль головного мозку дитини та універсальної парадигми розвитку. Універсальна парадигма розвитку означає, що характеристика світу, в якому

ми існуємо, – його подвійність, подільність на праве і ліве, світле і темне, добро і зло... Саме мислення, як функцію людського розуму, можна вважати сутністю людини – істоти принципово розумної, а тому мислячої, оскільки мислення є системоформувальним чинником людини як живої системи, і водночас необхідним і достатнім чинником її буття як істоти розумної, як виду *Homo sapiens*. Тому головною розвивальною метою освіти потрібно вважати розвиток у вихованців мислення.

Мозок дошкільнят звикнув запам'ятовувати все таким, яким воно є, – у різнобарв'ї кольорів, запахів, звуків, інших факторів. При відтворенні у правій півкулі створюється образ-модель, а у лівій – відповідне образу словесне означення. У результаті сприйняття не стирається, воно породжує геніальні вірші, книги, картини, відкриття. Це для нього є необмеженим і природнім.

Під час навчання в більшості випадків відбувається навантаження або на ліву півкулю мозку, або на праву, тоді як протилежна залишається незадіяною. Експериментально, за допомогою критерію К. Пірсона, було підтверджено, що музичний розвиток дитини третього року життя буде більш ефективним і якісним, якщо буде задіяне цілісне мислення двох півкуль мозку дитини.

Цілісне мислення – це сукупна робота двох півкуль головного мозку при опорі на всі канали сприймання інформації. Звичайно, завдання розвитку особистості дошкільнят будуть успішно розв'язані, якщо при проведенні занять з музики включений розгляд основних питань фактологічного матеріалу. При цьому музичний керівник варіює методи вивчення й форми роботи. Ми пропонуємо умови індивідуально-особистісного розвитку дитини, а саме, в рамках програми, тематичного планування, проведення занять, ігор, ранків тощо музичний керівник повинен мати дидактичний матеріал, який змінює вид і форму подачі навчального матеріалу, а дитина має свободу вибору завдання (те саме завдання повинно забезпечити можливість його виконання через образ, слово, схему, моделювання, музичний супровід, рух тощо), тобто, сприяти інтеграції правого та лівого типів буття у навчанні і розвитку. Ефективнішою буде та діяльність, де задіяні дві півкулі мозку дошкільнят одночасно.

**Ключові слова:** музичний розвиток, діти третього року життя, цілісне мислення, педагогічний експеримент, критерій К. Пірсона.

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